original to file cc'sto: JRB MAW PGL 5.Alder

<u>Lila Canyon Project</u>

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UtahAmerican Energy, Inc.



January 18, 2007

HAND DELIVERED

Mr. John Baza, Director Division of Oil, Gas, and Mining 1594 West North Temple Salt Lake City, Utah 84111-5801

RE: Horse Canyon Mine, Lila Canyon Extension C/007/013 Permit Application

Dear John:

UtahAmerican Energy, Inc. ("UEI") has had the opportunity to review the letter dated January 12, 2007, from the Southern Utah Wilderness Alliance ("SUWA"), regarding the baseline hydrologic data used for the Lila Canyon Mining and Reclamation Plan ("MRP"). SUWA's issues have been addressed before; however, we offer the following in response:

1. <u>SUWA's allegation that the IPA wells are unsuitable for providing baseline water quality data.</u>

SUWA has once again misrepresented UEI's boreholes as "the IPA wells." UEI has confirmed with its consulting hydrologist, Tom Suchoski, that in 1993 when the IPA piezometers were planned, IPA's consultants held meetings with the Division staff to discuss the planning for these boreholes. Coal exploration boreholes were prepared to be completed as piezometers for the purpose of monitoring water level. They were not planned as water quality monitoring wells due to the anticipated depth to water and concerns with the adequacy of completions at depth. As part of the discussion, the lack of water quality monitoring was raised as an issue. This was addressed, at the time, by providing several years of in-mine water quality data from the Horse Canyon Mine located within the same formation as the Lila Expansion. The Lila Canyon Mine expansion area has the same geology, lithology, and structure as the Horse Canyon Mine; therefore, subsurface conditions are not expected to change. Due to similar subsurface conditions, the groundwater quality for the immediately adjacent area is expected to be essentially the same.

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2. <u>SUWA's allegation that the IPA wells are unsuitable for ground water monitoring.</u>

Although UEI's boreholes are not used for monitoring groundwater quality, as discussed above, the groundwater data from the Horse Canyon Mine was used to provide representative water quality data for the deep saturated zone anticipated in the Lila Expansion Area. The subsurface conditions from both properties were expected to be similar. Based on the lithology from the coal exploration holes, the geology and lithology of the two locations was shown to be the same. Therefore, the groundwater quality is expected to be essentially the same. Thus, the groundwater in the Horse Canyon Mine is representative of the water quality anticipated in the Lila Expansion Area.

Additionally, as stated in the MRP, the deep saturated zone is not defined as an aquifer. See Chapter 7, p. 14. Based on the Division's definition, the water in this zone is not developed for a specific use nor does the strata transmit sufficient water to supply water sources. Additionally, there is no discharge from this zone along any fault or fracture or in any adjacent canyons within the permit area. Further, the upper isolated perched aquifers are separated from the lower, deep saturated zone and changes in the lower zone will not affect the upper aquifers. Therefore, as discussed in the MRP and PHC, there is no potential that mining will impact existing aquifers within and adjacent to the permit area.

If during mining subsurface conditions change and significant variations in water quality are identified which justify concerns, UEI can install additional monitoring points to determine the future impact following mining.

3. <u>SUWA's allegation that the IPA wells are not representative of the permit area.</u>

SUWA is once again creating the misimpression that the area within the triangle of coverage of the three piezometers in UEI's boreholes (IPA Nos. 1, 2, 3) is the only area that the boreholes monitor. This is not the case. Once again, SUWA cannot narrowly focus on the area inside a set of points as exclusively representative of the data set. Areas both inside and outside the boreholes are representative of the subsurface conditions and piezometric surface. The exact radius of data from the borehole are based on site-specific conditions.

UEI's hydrologist, Tom Suchoski, has confirmed that in the case of the geology of the Horse Canyon Area, the formations tend to be of a consistent thickness and dip throughout the Horse Canyon and Lila Expansion areas. South of the expansion area, in the area of Williams Draw, the structure is affected by faulting of the graben structure. Further the lithology of the formations is consistent over this area. Given this continuity of the geology and lithology shown by the three existing IPA piezometers, the boreholes are representative of the formations found in the Horse Canyon area.

Given the above discussion, the IPA piezometers demonstrate that the piezometric surface extends into the Book Cliffs. Therefore, this data provides the information that the piezometers were designed for, i.e., determining the depth to water and from the depth to water values, and a piezometric surface was developed which demonstrates the direction of groundwater movement.

4. <u>SUWA's allegation that UEI has an incomplete understanding of the permit area hydrology and needs additional data points.</u>

Once again, SUWA raises an issue which has previously been addressed by UEI. Based on the MRP revision submitted in response to the Divisions and SUWA's comments, UEI has provided adequate information to describe the permit area hydrology. The level of information presented is similar to that provided by other mining operations and has served as the basis for permit approval at these operations.

SUWA again raises concerns regarding recharge and discharge area for the deep, saturated zone. Recharge to the deep zone is addressed in Chapter 7, p. 21&22. Discharge from the lower zone is to the deep strata underlying the Book Cliffs as described in Chapter 7. No other discharge source has been identified for this zone. SUWA has contended that this discharge is to Range Creek. An evaluation of such potential is presented in Chapter 7, p.32-36. Based on this evaluation, UEI concluded that there is no discharge from the deep zone to the Range Creek drainage due to the fact that the water in the deep zone is at an elevation 800 to 1200 feet lower than the channel within the Range Creek drainage. Additionally, there is a significant thickness of low permeability strata between the level of the water bearing zone and the elevation of Range Creek. These low permeability zones would further preclude a vertical movement of water. The Division has already approved UEI's conclusion in this regard.

The piezometric surface is presented in Plate 7-1. A typical cross-section was developed to show the approximate relationship between the geology, lithology, piezometric surface, and coal seam (see Plate 7-2). This presentation on the cross-section was not designed to be an exact depiction of the piezometric surface. But it does provide an understanding of the relationship of the units and the piezometric surface and the Range Creek Drainage.

The artesian conditions and water level fluctuations identified in the IPA piezometers are addressed in Chapter 7, p.18&19. The artesian pressure is a representation of the height to which water in the confined water bearing zone would rise to. Based on the elevation of these water levels, it is possible from three points to determine the direction of water flow or migration tendency. The water level fluctuations indicate that there is a movement of water in the area of

the piezometer. In the case of IPA-1, the fluctuation was an average of 0.23 feet per month. As discussed in Chapter 7, similar fluctuations have been documented elsewhere and are not considered significant.

A description of geology, faults, lithology, and structure are presented in Chapter 6 of the MRP. Further, a description of the relationship to the occurrence, movement, or discharge of groundwater to the geologic structure, lithology, faults, etc. are presented in Chapter 7, Section 724.100 at numerous locations within this chapter.

Renewable resource lands are identified and discussed in Chapter 5, p. 34-45. Based on the evaluation and site reconnaissance conducted, it was determined that no significant impacts to renewable resource lands was to be expected.

Contrary to SUWA's repetitive allegations, there are no deficiencies or inadequacies in the data or in UEI's understanding of the groundwater systems and the Division has already found the MRP to meet the requirements of the coal rules in this regard. Additional water monitoring wells or boreholes would not result in any significant additional understanding of the groundwater system in the area of the proposed expansion area. The additional data would simply confirm the basic conditions which have already been identified, are understood and have been determined adequate by the Division. The cost of obtaining this additional confirmation of data is not justified and is not required.

Therefore, UEI requests that the Division proceed to issue the mine permit on the basis of the existing hydrologic data within the MRP.

Sincerely,

Jag Marshall